

## **ABSTRACT**

**Introduction:** Long-term clinical documentation of two-piece implants is readily available, but similar data on one piece implants is limited. Since implant and abutment sections are manufactured as a single unit, loading of one piece implants after placement can be difficult to control. In contrast two piece implants undergo submerged healing transmucosally with a healing collar or after immediate loading if the primary stability is judged adequate. The question of how to manage one piece implants that lack adequate primary stability for immediate loading remains unanswered. Comparative long term clinical data on both one piece and two piece implants designs would benefit from evidence based treatment planning.

**Key words:** One-Piece implant (OPI), Two-Piece implant (TPI), Insertion torque, Immediate non occlusal loading, Crestal bone loss.

**Aim of the study:** The aim of this prospective study is to compare the crestal bone level changes around one piece and two piece implants placed with immediate non occlusal loading.

**Materials and Methods:** Ten patients with missing molars (36,46) were selected according to the inclusion criteria, after assessing the bone quality One-piece (OPI) and Two-piece (TPI) implants were placed, and sufficient primary stability was achieved. The implant was loaded within 48 hrs based on immediate non occlusal loading concept (INOL).The provisional restoration was kept out of centric and eccentric contacts. Radiographs were taken at baseline, 3 months, 6 months to assess the crestal bone loss at mesial and distal sites. Finally definitive restoration was placed after 4 months of complete osseointegration.

**Results:** Implant survival rate was 100 %.Radiographic evaluation of crestal bone level changes has been done around one piece and two piece implants. The mean difference in the bone level changes around one piece implant (T0-T2) was found to be  $1.0179 \pm 0.398$  .The mean difference in the crestal bone level changes around two piece implants (T0-T2) was found to be  $0.8172 \pm 0.200$ .The mean difference in the crestal bone level changes between one piece and two piece implants was found to be 0.20075,with a P value of .224 which shows no significant difference in crestal bone loss between one piece and two piece implants.

**Conclusion:** The six months follow up of this prospective study suggests that there is no significant differences in the bone loss between OPI and TPI placed in same patients and exposed to same clinical situations.